

REMARKS

In the Office Action mailed June 13, 2006, the Examiner noted that claims 1-14 were pending, and rejected claims 1-14. No claims have been amended, and, thus, in view of the forgoing claims 1-14 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections are traversed below.

The Examiner has maintained the rejections under 35 USC section 103 of all the claims as obvious over various combinations of Brintzenhofe, Zeng, DeRose, Ardoin and Alam with Brintzenhofe and Zeng being the commonly used references. In the rejection the Examiner has only changed a few of the words of the prior Action, such as the addition of words in the Action at page 3, line 5, line 11, line 12 and lines 13-14. The Examiner has also more particularly provided "Response to Arguments" comments on Action pages 12 and 13 as a basis for maintaining the rejection.

In particular in the comments on page 12, the Examiner asserts that figures 6 and 7 of Zeng, particularly figure 7 show text elements "with A text in the left most branches" and shows the preservation of text relationship ("The text relationship is preserved since all A elements in the leftmost branch of the tree in Figure 6 are combined into an A element in the tree in Figure 7"). That is, the Examiner is basing the rejection on the assertion that the "A elements" of Zeng are text. This is not correct. The interpretation by the Examiner is wrong. According to the text of Zeng, the letters A, B and C represent filters not text. The Zeng text particularly states:

[0032] Referring now to FIGS. 6 and 7, an illustration of joint segmentor/filter selector operation is presented. In FIG. 6, block 80 represents an input image that has been initially segmented into 16 equally-sized subregions (numbered 0000 through 1111 binary) by a quadtree segmentor. Quadtree 82 shows the relationship of the segments in the quadtree mapping of segmented image 80. [0033] Wavelet filters A, B, and C are applied to each subregion 0000-1111, and a best filter is chosen for each subregion based on entropy estimation. A sample filter assignment is shown on 80 by the placement of "A", "B", or "C" on the subregion to show the assigned filter. The leaf nodes on quadtree 82 are also labeled with the selected filter for that node. [0034] After all leaf subregions have been assigned a filter type A, B, or C, the tree is merged from the bottom up recursively. If the children of a parent node are assigned the same type of filter, the children will be merged and the same type of filter will be assigned to the parent node. FIG. 7 shows the original segmentation and filter assignment of FIG. 6 after this merging process. Of the original leaf segments of quadtree 82, only segments 1000 and 1001 remain in quadtree 86. All other original leaf segments have been merged up one or two nodes due to common filter assignment. Segmentation map 84 shows the final filter assignment for this example.

(See Zeng, paras. 32-34, underlining emphasis supplied)

The above text discusses assigning appropriate filters to image segments in a hierarchy not assigning text in a hierarchical relationship to preserve the text relationship.

In asserting an interpretation of the "elements A" as text, the Examiner particularly points to Zeng figures 6 and 7 and paragraphs 19, 20 and 34. Paragraph 34 is set forth above.

Paragraphs 19 and 20 particularly state:

[0019] FIG. 6, which illustrates a quadtree-segmented image prior to leaf node merging, and its corresponding quadtree structure; and
[0020] FIG. 7, which shows the same quadtree-segmented image after leaf node merging, and its corresponding quadtree structure.

(See Zeng, paras. 19 & 20).

As can be seen from the above portions of Zeng, there is no discussion support for the "elements A" being text. Figures 6 and 7 of Zeng merely show numbers and letters and say nothing about text much less about the "elements A" being text.

The Examiner is requested to provide a reasoning or rational as to why the interpretation of the filter elements in Zeng as text elements is justified.

For the above-discussed reasons, the basis for the Examiner maintaining the rejections using Zeng is faulty and should be withdrawn.

In addition Zeng teaches away from a combination that would preserve a text relationship between the elements when compressing a structured document that combines text elements ("combining contents of text elements relatively at a same position among two records or more of the structured document to preserve a text relationship between the contents" - claim 1). In Zeng the filters assigned to each image segment are used to produce transform coefficients. The coefficients are then combined in a composite wavelet that produces a composite coefficient image. (See Zeng Abstract) The resulting composite coefficient image 46 (figure 2B) produced by the compositing of the image coefficients overlays the coefficient images 40 and 42. That is, if the images 40 and 42 represented text, the alleged text of one image (42) would be written on top of (or overlaid on) the alleged text of another image (40). Writing this alleged text (42) on top of other alleged text (40) would not preserve a text relationship but would destroy it.

The Examiner is requested to provide a reasoning why Zeng does not teach away from a combination that would preserve a text relationship between the elements when compressing a structured document in a way that combines text elements.

For the above-discussed additional reason, the rejection using Zeng should be withdrawn.

In addition, Brintzenhofe and Zeng, being used to reject claim 1, do not discuss the text compression where there is a replacement of two or more text records with a new text record as recited in claim 1:

a generating device generating a new record that includes the new text element and inherits a relative position relationship of text elements in the two records or more;

a converting device converting the structured document by replacing the two records or more with the new record, thereby decreasing the number of hierarchical elements of the structured document

(See claim 1).

The Examiner is requested to particularly point out where in Brintzenhofe or Zeng compression of a text where there is a replacement of two or more text records with a new text record is found.

For this further reason, the rejection should be withdrawn.

It is an object of the claims of the present application to reduce needed working memory and to alleviate the load or improve the speed involved in processing a structured document, particularly an XML document (see application page 7, lines 14-18). The prior art of Zeng and Brintzenhofe, together or alone is not relevant to such an object.

Brintzenhofe relates to a method of generating a new document with a document editor, etc. by separating the material of the document into three aspects, content, layout and media, and by modifying or combining these three aspects. This document editing does not reduce required working memory, alleviate load or improve processing speed of a structured document. Nor does this editing perform "generating a new text element by combining contents of text elements relatively at a same position among two records or more of the structured document to preserve a text relationship between the contents; ... generating a new record that includes the new text element and inherits a relative position relationship of text elements in the two records or more; ... converting the structured document by replacing the two records or more with the new record, thereby decreasing the number of hierarchical elements of the structured document" - claim 1.

Zeng relates to an image compression method in which frequency band segmentation is applied to an image and the quantization/coding is modified for each band. Rather than a simple band segmentation, a complex multiple characteristic segmentation is performed using

filters with various properties that do not overlap. This image compression does not reduce required working memory, alleviate load or improve processing speed of a structured document. Nor does it perform "generating a new text element by combining contents of text elements relatively at a same position among two records or more of the structured document to preserve a text relationship between the contents; ... generating a new record that includes the new text element and inherits a relative position relationship of text elements in the two records or more; ... converting the structured document by replacing the two records or more with the new record, thereby decreasing the number of hierarchical elements of the structured document" - claim 1.

Zeng is being used by the Examiner to allegedly teach the combining of elements. In particular, this feature of claim 1 is about "combining contents of text elements relatively at a same position among two records or more of the structured document to preserve a text relationship between the contents" - claim 1).

Zeng is not about structured documents much less structured documents of text. Zeng is about adaptive coding where signals called wavelets are involved and merging occurs only if the same filter is involved ("If the children of a parent node are assigned the same type of filter, the children will be merged and the same type of filter will be assigned to the parent node." - Zeng, paragraph 0034). There is no teaching or suggestion in Zeng of combining text elements much less doing in a way that preserves a text relationship between the contents. For this reason, it is submitted that the invention distinguishes over the prior art and withdrawal of the rejection is requested.

As noted above, Zeng is directed at adaptive coding of image signals. This is from an entirely different field of endeavor than that of the structured document system of the claimed invention. In addition, Zeng is directed to an entirely different problem (adaptive coding of images using filters) from the one addressed by the inventor and invention claimed in this application. A person seeking to improve a structured document system by combining records and preserving text relationships would not look to adaptive coding where the merging is dependent on the same filter being used for what may be merged. As a result, it is submitted that the Zeng reference is from a non-analogous art.

The Examiner is particularly requested to provide a reasoning as to why Zeng is from an analogous art in view of the above argument.

For this still further additional reason, it is submitted that claim 1 distinguishes over the prior art and withdrawal of the rejection is requested.

The prior art of Brintzenhofe, DeRose, Ardoin and Alam add nothing that cures the deficits in Zeng. In particular, Brintzenhofe separates documents into content, design and media and does not discuss combining elements to compress. DeRose tracks structured documents but also does not discuss combining to compress. Ardoin manages entities but does not compress. Alam discusses handling documents of different formats but says nothing about combining elements to compress.

The Examiner is particularly requested to provide a reasoning as to why and how Brintzenhofe, DeRose, Ardoin and Alam cure the deficits in Zeng.

Claim 3 recites "generating a plurality of new text elements by combining, as synthesis targets, content of each element included in a first combination of elements that successively exist side by side in a level immediately below a certain element and have a same element name, and content of each element included in a second combination of elements that have a same element name in a certain level lower than the elements of the first combination, elements in each level on a route from the elements of the first combination to the certain level having a same element name, in the structured document to preserve a text relationship between the contents", claim 9 recites "generating a new text element by combining contents of text elements relatively at a same position among two records or more of a structured document to preserve a text relationship between the contents and that is written with a set of hierarchical elements and composed of a plurality of records each including one text element or more; generating a new record that includes the new text element and inherits a relative position relationship of text elements in the two records or more, thereby decreasing the number of hierarchical elements of the structured document", claim 10 recites "generating a new text element by combining contents of elements relatively at a same position among two records or more of a structured document that is written with a set of hierarchical elements to preserve a text relationship between the contents and composed of a plurality of records each including one element or more; generating a new record that includes the new text element and inherits a relative position relationship of text elements in the two records or more, thereby decreasing the number of hierarchical elements of the structured document", claim 11 recites "joining means for generating a new text element by combining contents of text elements relatively at a same position among two records or more of the structured document to preserve a text relationship between the contents; generating means for generating a new record that includes the text new element and inherits a relative position relationship of text elements in the two records or more", claim 12 recites "combining hierarchical text elements of the hierarchically structured document

responsive to common element names for the hierarchical text elements and a common child element structure of the hierarchical text elements and preserving a text relationship between contents of the text elements", claim 13 recites "combining hierarchical text elements of the hierarchically structured document responsive to common features of parts of the hierarchy of the hierarchically structured document and preserving a text relationship between contents of the text elements", and claim 14 recites "compressing the hierarchy of the structured document by combining text element content and preserving a hierarchically defined relationship between contents of text elements" and these claims are patentable for reasons similar to those discussed above for claim 1.

It is submitted that the independent claims distinguish over the prior art and withdrawal of the rejection is requested.

The dependent claims depend from the above-discussed independent claims and are patentable over the prior art for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the prior art. For example, claim 4 emphasizes the use of element names. The Examiner alleged that Zeng addresses this pointing to figures 6 and 7 and paragraphs 19, 20 and 34. These parts of Zeng say nothing about using names. The Examiner is requested to clarify the rejection of claim 4 over Zeng. Claim 5 emphasizes that synthesis targets are specified based on the number of elements included in each of the groups. The Examiner alleges that Alam discloses dividing but the Examiner makes no allegations about specifying synthesis targets based a number of elements in a group. The Examiner is particularly requested to specifically point to where this feature is found in the prior art. It is submitted that the dependent claims, in addition to claims 4 and 5, are independently patentable over the prior art as the prior art is missing features recited therein.

It is submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

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If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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